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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,482	09/28/2001	Ye Wang	04770.00023	6453

22907 7590 06/24/2005

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EXAMINER

JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/966,482	WANG ET AL.	
	Examiner	Art Unit	
	Jakieda R Jackson	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12 and 16-58 is/are allowed.
- 6) ☒ Claim(s) 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/8/05 and 3/21/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the Office Action mailed December 20, 2004, applicant submitted an amendment filed on March 21, 2005, in which the applicant requested reconsideration with respect to amended **claim 1** and new **claims 18-58**.

Response to Arguments

2. Applicant(s) argues regarding claims 1, 31 and 45 that Kondo fails to teach determining a baseline beat position using modified discrete cosine transform (MDCT) coefficients obtained from the audio bitstream and deriving from the audio bitstream a window-switching pattern for sub-band sampling windows to generate MDCT coefficients.

Applicant(s) also argue regarding claims 16 and 17, that they are distinguishable over Kondo, as each recites a beat detector including a MDCT coefficient and a confidence calculator.

Applicant(s) arguments, see remarks filed March 21, 2005, with respect to claims 1, 16-17, 31 and 45 have been fully considered and are persuasive. The rejection of claims 1, 16-17, 31 and 45 has been withdrawn.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 13-15 are drawn to a mathematical algorithm, per se. Claims to processes that do nothing more than solve mathematical problems or manipulate abstract ideas or concepts are non-statutory. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing all of the foregoing, the acts are not being applied to appropriate subject matter. *Schrader*, 22 F.3d at 294-95, 30 USPQ2d at 1458-59. This, a process consisting solely of mathematical operations without some claimed practical application is drawn to non-statutory subject matter. In this case, the claims merely recite a detector that merely includes devices for analyzing a feature value for a related band, confidence score calculating and combining two or more said analyzed band feature values, without any practical application being recited.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claim 13** is rejected under 35 U.S.C. 102(e) as being anticipated by Touimi et al. (USPN 6,807,526), hereinafter referenced as Touimi.

Regarding **claim 13**, Touimi discloses a beat detector suitable for placement into an audio device conforming to a compression-encoded audio transmission protocol, said beat detector comprising:

a modified discrete cosine transform coefficient extractor (figure 3, element 31), for obtaining transform coefficients (column 6, lines 60-66);

at least one band feature value analyzer for analyzing a feature value for a related band (determines the energy in each of the bands; column 7, lines 7-14);

a confidence score calculator (delivers information based on values compared with a predetermined threshold level; column 7, lines 3-14 with column 9, lines 25-30); and

a converging (forming all together) and storage unit (coder) for combining two or more said analyzed band feature values (column 5, lines 26-30 and lines 46-59 with column 6, lines 29-23 and column 8, lines 36-38).

Allowable Subject Matter

6. **Claims 1-12 and 16-58** are allowed.

The following is a statement of reasons for allowance:

As for independent claims 1, 31 and 45, they recite a method, encoder and decoder for detecting beats in a compression encoded audio bitstream. Prior art such

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as Marx and Kondo show similar methods, encoders and decoders but fails to teach the recited method determining a baseline position using modified discrete cosine transform (MDCT) coefficients obtained from the audio bitstream and deriving from the audio bitstream a window-switching pattern for sub-band sampling windows used to generate the MDCT coefficients, to provide beat candidates for further evaluation and to perform beat tracking.

Dependent claims 2-12 and 18-58 are allowed because they further limit their parent claims.

As for independent claims 16 and 17, they recite an audio encoder and decoder suitable for use with a compression-encoded audio transmission protocol. Prior art teaches similar encoders and decoder, but fails to teach a beat detector including a modified discrete cosine transform coefficient and a confidence calculator, for an improved determination of beat position and to score the reliability of the beat candidate.

Conclusion


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Chen (USPN 6,787,689) discloses a fast beat counter with stability enhancement.
- Kaluza (USPN 6,005,658) discloses an intermittent measuring of arterial oxygen saturation of Hemoglin.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571.272.7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



W. R. YOUNG
PRIMARY EXAMINER

JRJ
June 14, 2005